FACSIMILE MESSAGE - PLEASE DELIVER PROMPTLY

November 11, 2002

TO:

Examiner Bridget Bunner

Group 1647 (703) 308-7148

FROM

Lin Sun-Hoffman

Celera Genomics Corp.

(240) 453-3628

FAX NO:

(703) 308-4242

OF PAGES (incl. cover):

8

Re:

U.S. Serial No. 09/776,705, filed Feb. 6, 2001

Entitled "ISOLATED HUMAN TRANSPORTER, NUCLEIC ACID

MOLECULES ENCODING HUMAN TRANSPORTER PROTEINS, AND

USES THEREOF"

A Preliminary Amendment (Restriction Election) and a Statement Regarding Duty of Disclosure and a request of two-month extension of time in the above-identified application follows. No fee is due for this filing.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: GUEGLER et al.

Art Unit: 1647

Serial No. 09/776,705

Examiner: B. Bunner

Filed: February 6, 2001

Atty. Docket: CL001010

For: ISOLATED HUMAN TRANSPORTER PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN TRANSPORTER PROTEINS, AND USES THEREOF

Statement Regarding Duty Of Disclose Information Material To Patentability Under 37 CFR 1.56 (a) and (b)

Honorable Commissioner of Patents and Trademarks Washington, D.C. 20231

By Facsimile

Sir:

This statement is to inform the United States of Patent and Trademark Office that Applicants and their representative have made a good faith effort in searching prior art relating to this invention.

No prior art material to patentability of the present invention has been found. The closest information associated with the invention is disclosed in Figures 1 and 2 in the top BLAST search results. However, this information, by itself or in combination with other information, does not constitute a prima facie case of unpatentability of any of the pending claims. Thus, it does not defeat the novelty of the present invention and the actual underlying references for the top BLAST hits are not being provided.

Respectfully submitted,

CELERA GENOMICS

Date: Nov. 11, 2001

Lin Sun-Hoffman, Ph.D., Reg No. 47,983

Celera Genomics Corporation 45 West Gude Drive, C2-4#20 Rockville, MD 20850

Tel: 240-453-3628, Fax: 240-453-3084

131

BLAST SEARCH RESULT AGAINST GENESEQ AND NCBI DATABASE CL001010

BLASTP 2.0.14 [Jun-29-2000]

Reference: Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schaffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

Query= 1010 (547 letters)

Database: /work/eda3/blast/public/geneseqp_all.fasta 952,616 sequences; 143,563,330 total letters

Searching done

Score E

Sequences producing significant alignments: (bits) Value CRA|222000028404234 /dataset=GENESEQ /org=Homo sapiens /taxon=9 .. 1094 0.0 CRA|62000053826345 /dataset=GENESEQ /org=Homo sapiens /taxon=96 ... 1084 0.0 CRA|224000031063269 /dataset=GENESEQ /org=Homo sapiens /taxon=9 ... 1076 0.0 CRA|335001100636810 /dataset=GENESEQ /org=Mus musculus /taxon=1... 906 0.0 CRA|225000012205891 /dataset=GENESEQ /org=Homo sapiens /taxon=9 .. 841 0.0 CRA|114000033857724 /dataset=GENESEQ /org=Homo sapiens /taxon=9 .. 597 e-170 CRA|1000686541029 /dataset=GENESEQ /org=Homo sapiens /taxon=960 .. 500 e-141 CRA|100000007609532 /dataset=GENESEQ /org=Homo sapiens /taxon=9 .. 495 e-139 CRA|100000004443923 /dataset=GENESEQ /org=Homo sapiens /taxon=9 ... 476 e-133 CRA|223000022883512 /dataset=GENESEQ /org=Homo sapiens /taxon=9 ... 476 e-133 CRA 69000031506125 /dataset=GENESEQ /org=Rattus norvegicus /tax... 474 e-133 CRA|83000042842453 /dataset=GENESEQ /org=Homo sapiens /taxon=96 .. 471 e-132 CRA|335001098679353 /dataset=GENESEQ /org=Homo sapiens /taxon=9 .. 469 e-131 CRA|335001098679353 /dataset=GENESEQ /org=Homo sapiens /taxon=9 ... 469 e-131 CRA|120000039871355 /dataset=GENESEQ /org=Homo sapiens /taxon=9 ... 467 e-131 CRA|151000011262501 /dataset=GENESEQ /org=Homo sapiens /taxon=9 . 442 e-123 CRA|83000042842283 /dataset=GENESEQ /org=Homo sapiens /taxon=96. 432 e-120 CRA|32000235046766 /dataset=GENESEQ /org=Homo sapiens /taxon=96 427 e-118 CRA|32000235046766 /dataset=GENESEQ /org=Homo sapiens /taxon=96. 427 e-118 CRA|335001100643768 /dataset=GENESEQ /org=Homo sapiens /taxon=9. 422 e-117 CRA|335001100817861 /dataset=GENESEQ /org=Homo sapiens /taxon=9 422 e-117 CRA[83000020236405 /dataset=GENESEQ /org=Homo sapiens /taxon=96 384 e-106 CRA|83000020236405 /dataset=GENESEQ /org=Homo sapiens /taxon=96 384 e-106 CRA|335001100578907 /dataset=GENESEQ /org=Homo sapiens /taxon=9 375 e-103 CRA|78000203046689 /dataset=GENESEQ /org=Homo sapiens /taxon=96 372 e-102 CRA|32000225951005 /dataset=GENESEQ /org=Homo sapiens /taxon=96 339 4e-92 CRA|83000042842250 /dataset=GENESEQ /org=Homo sapiens /taxon=96 ... 331 7e-90 CRA|107000059070704 /dataset=GENESEQ /org=Homo sapiens /taxon=9 320 le-86 CRA|76000053336837 /dataset=GENESEQ /org=Homo sapiens /taxon=96. 316 2e-85 CRA|76000053336837 /dataset=GENESEQ /org=Homo sapiens /taxon=96 316 2e-85 CRA|67000131174241 /dataset=GENESEQ /org=Homo sapiens /taxon=96 316 3e-85 CRA|78000202261234 /dataset=GENESEQ /org=Homo sapiens /taxon=96. 263 2e-69 CRA|83000042842352 /dataset=GENESEQ /org=Homo sapiens /taxon=96 233 3e-60 CRA|83000020236258 /dataset=GENESEQ /org=Homo sapiens /taxon=96. 226 2e-58 CRA[83000020236258 /dataset=GENESEQ /org=Homo sapiens /taxon=96 226 2e-58 CRA[83000020236258 /dataset=GENESEQ /org=Homo sapiens /taxon=96 226 2e-58 CRA|83000020236258 /dataset=GENESEQ /org=Homo sapiens /taxon=96 226 2e-58 CRA|83000020236258 /dataset=GENESEQ /org=Homo sapiens /taxon=96 226 2e-58 CRA[83000020236258 /dataset=GENESEQ /org=Homo sapiens /taxon=96... 226 2e-58 CRA 63000081707103 /dataset=GENESEQ /org=Homo sapiens /taxon=96 220 2e-56 CRA|224000006039019 /dataset=GENESEQ /org=Homo sapiens /taxon=9 218 7e-56 CRA|33500109929105 /dataset=GENESEQ /org=Homo sapiens /taxon=9 208 8e-53 CRA|32000219714253 /dataset=GENESEQ /org=Homo sapiens /taxon=96. 200 2e-50 CRA|32000219714251 /dataset=GENESEQ /org=Homo sapiens /taxon=96... 194 1e-48 CRA|2220000008211814 /dataset=GENESEQ /org=Homo sapiens /taxon=9... 167 2e-40 CRA|32000219714249 /dataset=GENESEQ /org=Homo sapiens /taxon=96... 163 3e-39 CRA|335001101591478 /dataset=GENESEQ /org=Homo sapiens /taxon=9... 161 9e-39 CRA|222000012048254 /dataset=GENESEQ /org=Homo sapiens /taxon=9... 158 8e-38 CRA|78000202261444 /dataset=GENESEQ /org=Homo sapiens /taxon=96... 143 4e-33

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Score = 1094 bits (2798), Expect = 0.0 Identities = 547/547 (100%), Positives = 547/547 (100%)

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- Query: 61 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMAYTGVILFIIMLLAVAILSL 120 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMAYTGVILFIIMLLAVAILSL Sbjct: 61 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMAYTGVILFIIMLLAVAILSL 120
- Query: 121 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV 180 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV Sbjct: 121 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV 180
- Query: 181 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV 240 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV Sbjct: 181 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV 240
- Query: 241 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN 300 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN Sbjet: 241 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN 300
- Query: 301 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRS 360 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRS Sbjct: 301 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRS 360

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Query: 421 VAVTQTVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF 480 VAVTQTVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF Sbjet: 421 VAVTQTVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF 480

Query: 481 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD 540 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD Sbjet: 481 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD 540

Query: 541 PPNSKHH 547 PPNSKHH Sbjet: 541 PPNSKHH 547

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Score = 1084 bits (2774), Expect = 0.0 Identities = 543/547 (99%), Positives = 544/547 (99%)

Query: I MDPMELRNVNIEPDDESSSGESAPDSYIRIGNSEKAAMSSQFANEDTESQKFLTNGFLGK 60 MDPMELRNVNIEPDDESSSGESAPDSYI IGNSEKAAMSSQFANEDTESQKFLTNGFLGK Sbjct: I MDPMELRNVNIEPDDESSSGESAPDSYIGIGNSEKAAMSSQFANEDTESQKFLTNGFLGK 60

Query: 61 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMAYTGVILFIIMLLAVAILSL 120 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMA TG+ILFIIMLLAVAILSL Sbjct: 61 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMANTGIILFIIMLLAVAILSL 120

Query: 121 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV 180 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV Sbjet: 121 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV 180

Query: 181 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV 240 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV Sbjct: 181 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV 240

Query: 241 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN 300 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN Sbjct: 241 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN 300

Query: 301 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRS 360 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRS Sbjct: 301 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRS 360

Query: 361 RRKMQTVSNISITGMLVMYLLAALFGYLTFYGEVEDELLHAYSKVYTLDIPLLMVRLAVL 420 RRKMQTVSNISITGMLVMYLLAALFGYLTFYGEVEDELLHAYSKVYTLDIPLLMVRLAVL Sbjct: 361 RRKMQTVSNISITGMLVMYLLAALFGYLTFYGEVEDELLHAYSKVYTLDIPLLMVRLAVL 420

Query: 421 VAVTQTVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF 480 VAVT TVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF Sbjct: 421 VAVTLTVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF 480

Query: 481 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD 540 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD Sbjct: 481 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD 540

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Score = 1076 bits (2751), Expect = 0.0 Identities = 540/547 (98%), Positives = 543/547 (98%), Gaps = 1/547 (0%)

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Query: 61 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMAYTGVILFIIMLLAVAILSL 120 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMA TG+ILF+IMLLAVAILSL Sbjct: 60 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMANTGIILFMIMLLAVAILSL 119

Query: 121 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV 180 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV Sbjet: 120 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV 179

Query: 181 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV 240 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV Sbjct: 180 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV 239

Query: 241 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN 300 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN Sbjct: 240 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN 299

Query: 301 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRS 360 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELK+RS Sbjct 300 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKERS 359

Query: 361 RRKMQTVSNISITGMLVMYLLAALFGYLTFYGEVEDELLHAYSKVYTLDIPLLMVRLAVL 420 RRKMQTVSNISITGMLVMYLLAALFGYLTFYGEVEDELLHAYSKVYTLDIPLLMVRLAVL Sbjct 360 RRKMQTVSNISITGMLVMYLLAALFGYLTFYGEVEDELLHAYSKVYTLDIPLLMVRLAVL 419

Query 421 VAVTQTVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF 480 VAVT TVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF Sbjct 420 VAVTLTVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF 479

Query 481 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD 540 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD Sbjct 480 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD 539

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BLASTP 2.0.14 [Jun-29-2000]

Reference: Altschul, Stephen F., Thomas L. Madden, Alejandro A. Schaffer, Jinghui Zhang, Zheng Zhang, Webb Miller, and David J. Lipman (1997), "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs", Nucleic Acids Res. 25:3389-3402.

Query= 1010 (547 letters)

Database: /work/eda/blast/public/pataa.fasta 119.338 sequences; 19.610,776 total letters

Searching......done

Score E

Sequences producing significant alignments:

(bits) Value

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Score = 1084 bits (2774), Expect = 0.0 Identities = 543/547 (99%), Positives = 544/547 (99%)

Query: 1 MDPMELRNVNIEPDDESSSGESAPDSYIRIGNSEKAAMSSQFANEDTESQKFLTNGFLGK 60 MDPMELRNVNIEPDDESSSGESAPDSYI IGNSEKAAMSSQFANEDTESQKFLTNGFLGK 8bjct: 1 MDPMELRNVNIEPDDESSSGESAPDSYIGIGNSEKAAMSSQFANEDTESQKFLTNGFLGK 60

Query: 61 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMAYTGVILFIIMLLAVAILSL 120 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMA TG+ILFIIMLLAVAILSL Sbjct: 61 KKLADYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMANTGIILFIIMLLAVAILSL 120

Query: 121 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV 180 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV Sbjct: 121 YSVHLLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEV 180

Query: 181 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV 240 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV Sbjct: 181 IRAFMGLEENTGEWYLNGNYLIIFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVV 240

Query: 241 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN 300 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN Sbjet 241 IYKKFQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDEN 300

Query: 301 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRS 360 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRS Sbjct 301 QAKGSLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRS 360

Query 361 RRKMQTVSNISITGMLVMYLLAALFGYLTFYGEVEDELLHAYSKVYTLDIPLLMVRLAVL 420 RRKMQTVSNISITGMLVMYLLAALFGYLTFYGEVEDELLHAYSKVYTLDIPLLMVRLAVL Sbjct 361 RRKMQTVSNISITGMLVMYLLAALFGYLTFYGEVEDELLHAYSKVYTLDIPLLMVRLAVL 420

Query 421 VAVTQTVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF 480 VAVT TVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF Sbjct 421 VAVTLTVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGF 480

Query 481 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD 540 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD Sbjct: 481 IGASSATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYD 540

Query: 541 PPNSKHH 547 PPNSKHH Sbjct: 541 PPNSKHH 547

>CRA|225000041339589 /altid=gi|19169919 /def=emb|CAD26771.1| unnamed protein product [Homo sapiens] /org=Homo sapiens /taxon=9606 /div=PR1 /dataset=pataa /length=487 Length = 487

Score = 476 bits (1212), Expect = e-134 Identities = 258/543 (47%), Positives = 350/543 (63%), Gaps = 67/543 (12%)

Query 5 ELRNVNIEPDDESSSGESAPDSYIRIGNSEKAAMSSQFANEDTESQKFLTNGFLGKKKLA 64 EL+N+ + P+D++ S +S ++ + N+ ++S+F + D ES++ LTN L KKK

Sbjct. 12 ELQNMTV-PEDDNISNDS--NDFTEVENGQ---INSKFIS-DRESRRSLTNSHLEKKK-- 62

Query. 65 DYADEHHPGTTSFGMSSFNLSNAIMGSGILGLSYAMAYTGVILFIIMLLAVAILSLYSVH 124 DE+HPGTTSFGMS FNLSNAI+GSGILGLSYAMA TG+ LF+++L +V +LS+YS++ Sbjet: 63 --CDEYHPGTTSFGMSVFNLSNAIVGSGILGLSYAMANTGIALFMVLLTSVTLLSIYSIN 120

Query: 125 LLLKTAKEGGSLIYEKLGEKAFGWPGKIGAFVSITMQNIGAMSSYLFIIKYELPEVIRAF 184 LLL +KE G ++YEKLGE+ FG GK F+ ++QN GAM SYLFI+K ELP I+ Sbjet: 121 LLLICSKETGCMVYEKLGEQVFGTTGKFVIFGATSLQNTGAMLSYLFIVKNELPSAIKFL 180 Query: 185 MGLEENTGEWYLNGNYLHFVSVGIILPLSLLKNLGYLGYTSGFSLTCMVFFVSVVIYKK 244 MG EE WY++G L++ V+ GIILPL LLKNLGYLGYTSGFSL+CMVFF+ VVIYKK Sbjet: 181 MGKEETFSAWYVDGRVLVVIVTFGHLPLCLLKNLGYLGYTSGFSLSCMVFFLIVVIYKK 240 Query: 245 FQIPCPLPVLDHSVGNLSFNNTLPMHVVMLPNNSESSDVNFMMDYTHRNPAGLDENQAKG 304 FQIPC +P L+ ++ NS ++D Sbjct: 241 FQIPCIVPELNSTIS----------ANSTNADT-------------263 Query: 305 SLHDSGVEYEAHSDDKCEPKYFVFNSRTAYAIPILVFAFVCHPEVLPIYSELKDRSRRKM 364 C PKY FNS+T YA+P + FAFVCHP VLPIYSELKDRS++KM Sbjct: 264 ------CTPKYVTFNSKTVYALPTIAFAFVCHPSVLPIYSELKDRSQKKM 307 Query: 365 QTVSNISITGMLVMYLLAALFGYLTFYGEVEDELLHAYSKVYTLDIPLLMVRLAVLVAVT 424 Q VSNIS M VMY L A+FGYLTFY V+ +LLH Y DI+L VRLAV+VAV Sbjet: 308 QMVSNISFFAMFVMYFLTAIFGYLTFYDNVQSDLLHKYQS--KDDILILTVRLAVIVAVI 365 $Query: 425\ QTVPIVLFPIRTSVITLLFPKRPFSWIRHFLIAAVLIALNNVLVILVPTIKYIFGFIGAS\ 484$ TVP++ F+R+S+ L K F+ RH++ +L++ N+LVI+P++K IFG+G+ Sbjct: 366 LTVPVLFFTVRSSLFELA-KKTKFNLCRHTVVTCILLVVINLLVIFIPSMKDIFGVVGVT 424 Query: 485 SATMLIFILPAVFYLKLVKKETFRSPQKVGALIFLVVGIFFMIGSMALIIIDWIYDPPNS 544 SA MLIFILP+ YLK+ ++ + Q++ A +FL +G+ F + S+ L+I DW + Sbjet: 425 SANMLIFILPSSLYLKITDQDGDKGTQRIWAALFLGLGVLFSLVSIPLVIYDWACSSSSD 484 Query: 545 KHH 547 + H Sbjct: 485 EGH 487